

1. An artificial chromosome construct comprising a nucleic acid sequence that directs formation of a recombinant virus upon introduction into a cell.

2. The artificial chromosome construct of claim 1, wherein said recombinant virus is a lytic virus.

3. The artificial chromosome construct of claim 1, wherein said recombinant virus is a non-lytic virus.

4. The artificial chromosome construct of claim 1, wherein said artificial chromosome or said nucleic acid sequence further comprises a heterologous nucleic acid sequence.

5. The artificial chromosome construct of claim 4, wherein said heterologous nucleic acid sequence encodes a therapeutic gene product.

6. The artificial chromosome construct of claim 5, wherein said therapeutic gene product is selected from the group consisting of growth factors, hormones, enzymes, vaccine antigens, cytotoxins, immunomodulatory proteins, antisense RNA molecules, and ribozymes.

7. The artificial chromosome construct of claim 1, wherein said artificial chromosome is selected from the group consisting of bacterial artificial chromosomes, P1-derived artificial chromosomes, yeast artificial chromosomes, and mammalian artificial chromosomes.

8. The artificial chromosome construct of claim 5, wherein said artificial chromosome is a bacterial artificial chromosome.

9. The artificial chromosome construct of claim 1, wherein said recombinant virus is a herpes virus.

10. The artificial chromosome construct of claim 9, wherein said herpes virus is a herpes simplex virus.

11. A method of producing a recombinant virus or in a cell, said method comprising introducing the artificial chromosome construct of claim 1 into said cell.

12. The method of claim 11, wherein said cell is in a mammal.

13. A method of introducing a heterologous nucleic acid sequence into a cell, said method comprising introducing the artificial chromosome construct of claim 4 into said cell.

14. The method of claim 13, wherein said cell is in a mammal.

15. A method of killing a cell, said method comprising introducing into said cell the artificial chromosome construct of claim 2.

16. The method of claim 15, wherein said cell is in a mammal.

17. The method of claim 15, wherein said cell is a cancer cell.

18. The method of claim 11, further comprising introducing into said cell an amplicon that is packaged into a recombinant virion upon introduction of said artificial chromosome construct into said cell.

19. A cell comprising an artificial chromosome construct stably integrated into its genome.

20. The cell of claim 19, wherein said artificial chromosome construct comprises a nucleic acid sequence that encodes an HSV genome in which an immediate early gene comprises a mutation.